

**Notice of Allowability**

Application No.

09/578,511

Examiner

Qutub Ghulamali

Applicant(s)

PARK, WON HYOUNG

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/23/2005.
2. ☒ The allowed claim(s) is/are 1-6,8-13,16,17,19-23, 25-29, 31-33,35-37,41 and 42.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### ***Acknowledgment***

1. This Office Action is responsive to Applicant's Amendment filed on 08/23/2005.
2. The Office hereby acknowledges the amendments submitted by the applicant(s) dated 08/23/2005, wherein claims 7, 14, 15, 18, 24, 30, 34, and 38-40, stand cancelled (the applicant's Remarks/Argument, page 19, second paragraph only lists claims 7, 14, 15, 30 and 38-40 leaving out claims 18, 24 and 34 as being cancelled, whereas in amendment of claims pages 2-18 does show claims 18, 24 and 34 cancelled), and claims 1-6, 8-13, 16-17, 19-23, 25-29, 31-33, 35-37, 41 and 42, retained in this application.

### ***Allowable Subject Matter***

3. Claims 1-6, 8-13, 16-17, 19-23, 25-29, 31-33, 35-37, 41 and 42 allowed.
4. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 6, 21, 42, the prior art of record in combination with other claimed limitations neither anticipate nor renders obvious a communication system comprising an analog-to-digital converter wherein the analog-to-digital converter device includes a quantizer to convert the intermediate frequency signal into a digital signal, a latch circuit to receive the digital signal and output first and second signals in which the second signal is a delayed first signal and an output formatter to receive the first and second signals and output the first and second signals at prescribed periods to produce the quadrature and the in-phase component signal components

Art Unit: 2637

wherein each of said plurality of output formatters comprise a plurality of negators to negate the latched digital signals to output a negated latched signal and a plurality of selectors to select and output one of the negated latched and an unprocessed latched digital signal.

Such limitations, as recited in independent claims 1, 6, 21, 42, are neither anticipated nor rendered obvious by the prior art made of record.

Regarding claim 10, the prior art of record in combination with other claimed limitations neither anticipate nor renders obvious a communication system comprising a channel separator wherein the channel separator comprises, a latch circuit which receives the digital signal and outputs a first signal and a second signal wherein the second signal is a delayed first signal and an output formatter which receives the first and second signals and outputs the first and second signals at prescribed periods and wherein the latch circuit comprises a first latch a second latch and a third latch, wherein the output formatter comprises a first output formatter and a second output formatter and wherein the first latch receives the digital signal from the digitizer, the second latch receives the output of the first latch and provides the first signal to the first output formatter and the third latch, and the third latch provides the second signal to the second output formatter.

Such limitations, as recited in independent claim 10 is neither anticipated nor rendered obvious by the prior art made of record.

Regarding claims 22 and 32, the prior art of record in combination with other claimed limitations neither anticipate nor renders obvious a communication system wherein the method

Art Unit: 2637

comprises outputting on a first channel bits of the digital signal that are associated with the in-phase component of the digital signal and outputting on a second channel bits of the digital signal that are associated with the quadrature component of the digital signal and wherein each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal is separated by three consecutive bits that are not associated with the in-phase component of the digital signal each bit of said bits of the digital signal that are associated with the quadrature component of the digital signal is separated by the consecutive bits that are not associated with the quadrature component of the digital signal and each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal are adjacent a bit of said of the digital signal that is associated with the quadrature component of the digital signal.

Such limitations, as recited in independent claims 22 and 32, are neither anticipated nor rendered obvious by the prior art made of record.

5. Claims 2-5, 8-9, 11-13, 16-17, 19-20, 23, 25-29, 31, 33, 35-37, and 41 are allowed by virtue of their dependency to claims reasoned above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee.

Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2637

*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QG

September 13, 2005.



JAY K. PATEL  
SUPERVISORY PATENT EXAMINER